Alcatel-Lucent CBX 3500

MULTISERVICE EDGE SWITCH | RELEASE 10

Meeting today's demanding requirements for the multiservice edge, the Alcatel-Lucent CBX 3500™ Multiservice Edge Switch maximizes the profitability of ATM, frame relay and private-line services while adding new Ethernet/IP services and converging multiple services for transport over an MPLS core. This scalable, flexible switching system delivers high-performance services with field-proven, carrier-grade reliability and availability. The Alcatel-Lucent CBX 3500 Multiservice Edge Switch optimizes core Layer-2 multiservice networks with increased port densities, standards-based interworking, universal I/O modules, and module sharing with the Alcatel-Lucent CBX 500® Multiservice WAN Switch.

FEATURES

- Industry-leading port densities and low price per port
- Multiservice (frame relay, ATM, IP/MPLS, Ethernet) interfaces ranging from channelized DS0 to OC-48c/STM-16c
- Universal I/O modules
- Fully redundant hardware, control and power components
- 1+1 APS or 1:N redundancy protection
- Non-service-impacting software upgrades
- Module sharing with the Alcatel-Lucent CBX 500 Multiservice WAN Switch
- Hot-swappable components

BENEFITS

- Enables the cost-effective growth of existing services
- Allows providers to add new services in an easy and managed manner
- Allows stringent SLAs by enforcing and preserving quality of service (QoS) for converged multiservice traffic
- Enables the delivery of all services with unprecedented field-proven, carrier-grade reliability and availability while dramatically reducing costs
- Simplifies network management and reduces operating costs

TECHNICAL SPECIFICATIONS

Applications

- Scaling of profitable ATM, frame relay and private-line services at lower cost
- Addition of new revenue-generating Ethernet/IP services using cost-effective multiservice capabilities
- Interworking and convergence of multiservice traffic in core Layer-2 multiservice networks

Protocol Support

ATM

- UNI 3.0/3.1/4.0/4.1
- Traffic management 4.1
- IISP
- PNNI 1.1, H-PNNI
- B-ICI
- IMA 1.0/1.1
- Resilient UNI
- Fast APS
- APS trunk backup
- PVC redirect

FRAME RELAY

- FRF.5/FRF.8 ATM network/service interworking
- FRF.16.1 Multilink frame relay
- Subrate DS3
- RFC 1490 Translation FRAD
- UNI (DTE/DCE)
- NNI
- Priority frame
- SVCs
- LMI
- FRF.12/.13/.18/.19

ETHERNET/IP/MPLS

- BGP-4
- OSPF
- RIP
- Static
- IGMP
- RFC 2917 PPP
- PoS
- MP-iBGP
- OSPF-TE
- RSVP-TE
- LDP
- PWE3 encapsulation
- 10/100 Mb/s/Gigabit Ethernet
- VLAN (2 levels)
- Service interworking of Ethernet with frame relay/ATM over MPLS/ATM core
- Ethernet-to-ATM interworking (VC/VLAN mapping)
- RFC 2684 Ethernet-to-frame relay interworking bridged mode
- RFC 2684/IEEE 802.3 Ethernet-like MIB
- ATM and Ethernet pseudowires (PWE3)

Interface Modules

UNIVERSAL I/O (ATM, POS, GIGE)

- 24-port DS3 ATM IOA
- 1-port OC-48c/STM-16 ATM/PoS IOA
- 16-port OC-3c/STM-1 ATM IOA
- 2-port GigE (R10)
- 4-port OC-12c/STM-4 ATM/PoS IOA

ATM I/O

- 4-port OC-3/STM-1 ATM*
- 8-port DS3 ATM*
- 1-port Ch. STM-1/E1 ATM with IMA*
- 3-port Ch. DS3/1 ATM with IMA*
- 60-port Ch. T1/E1 circuit emulation*

FRAME RELAY/IP/ETHERNET I/O

- 6-port Ch. DS3/1/0 frame relay with MFR*
- 32-port E1 frame relay with MFR*
- 8-port DS3 subrate frame relay*
- 4-port 10/100 Ethernet*

*Module shared with Alcatel-Lucent CBX 500 Multiservice WAN Switch

System Architecture

- 35 Gb/s full-duplex switching capacity
- 16 slots
- Distributed routing and signaling
- Redundant processors, modules, fans, timing, power
- Priority-based circuit routing
- Multimode LED-based interfaces

Network Synchronization

- External/internal Stratum 3 timing
- Line timing
- Loop timing
- Holdover
- Free-running

Operations, Administration and Maintenance

- Internal, external and line loopback
- Alarm and trap monitoring
- Path trace
- F4/F5 OAM cells (loopback)

MXOS™ Multiservice Switch Operating Software

Carrier-grade, hardened software provides superior switch reliability and network scalability.

Network Management

- End-to-end Layer-2 provisioning via provisioning manager
- Fault correlation via fault manager
- Performance data and reports
- Billing and SLA management

Physical Dimensions

- Height: 80.0 cm (31.5 in.)
- Width: 48.3 cm (19.0 in.)
- Depth: 48.3 cm (19.0 in.)
- Weight: under 90.7 kg (200.0 lb) fully configured
- Rack-mount options: EIA 48.3 cm (19 in.) or 58.4 cm (23.0 in.) mid-mount, CO style

Power

- Redundant-chassis power distribution system
- 120 V AC to 240 V AC (requires external converter)
- –48 V DC with dual power feeds; max. 60 A
- Current:
  - ¬ 20 A max. (120 V AC)
  - ¬ 60 A max. (–48 V DC)
- Thermal dissipation: max. 2,880 W

Operating Environment

- Temperature: 0 C to 50 C (32 F to 122 F)

Regulatory Compliance

ENVIRONMENTAL/NEBS

- GR-63-CORE
- GR-1089-CORE

SAFETY

- UL 1950/CSA 22.2 950 (U.S.A., Canada)
- CAS 9590

EMC

- FCC Part 15, Class A (U.S.A.)
- EN 55022 Class A (Europe)

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